



(11) **EP 4 175 357 B1**

(12) **EUROPEAN PATENT SPECIFICATION**

(45) Date of publication and mention
of the grant of the patent:

08.05.2024 Bulletin 2024/19

(21) Application number: **21833557.8**

(22) Date of filing: **24.05.2021**

(51) International Patent Classification (IPC):

H04W 28/24 ^(2009.01) **H04W 48/18** ^(2009.01)
H04L 65/80 ^(2022.01) **H04W 76/12** ^(2018.01)
H04W 76/19 ^(2018.01) **H04W 76/32** ^(2018.01)
H04W 88/14 ^(2009.01)

(52) Cooperative Patent Classification (CPC):

H04W 76/32; H04L 65/80; H04W 76/12;
H04W 76/19; H04W 88/14

(86) International application number:

PCT/CN2021/095574

(87) International publication number:

WO 2022/001485 (06.01.2022 Gazette 2022/01)

(54) **USER SERVICE PRIORITY ADJUSTMENT METHOD AND SYSTEM, AND STORAGE MEDIUM**

VERFAHREN UND SYSTEM ZUR EINSTELLUNG DER BENUTZERDIENSTPRIORITÄT UND
SPEICHERMEDIUM

PROCÉDÉ ET SYSTÈME D'AJUSTEMENT DE PRIORITÉ DE SERVICE UTILISATEUR, ET
SUPPORT DE STOCKAGE

(84) Designated Contracting States:

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB
GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO
PL PT RO RS SE SI SK SM TR

(30) Priority: **28.06.2020 CN 202010596928**

(43) Date of publication of application:

03.05.2023 Bulletin 2023/18

(73) Proprietor: **ZTE Corporation**

Shenzhen, Guangdong 518057 (CN)

(72) Inventors:

- **TU, Xiaoyong**
Shenzhen, Guangdong 518057 (CN)
- **LIU, Xiliang**
Shenzhen, Guangdong 518057 (CN)
- **LIU, Jianhua**
Shenzhen, Guangdong 518057 (CN)

(74) Representative: **Chimini, Francesco**

Jacobacci & Partners S.p.A.
Piazza della Vittoria 11
25122 Brescia (IT)

(56) References cited:

CN-A- 107 820 291 CN-A- 108 012 267
CN-A- 109 964 509 CN-A- 110 214 459
CN-A- 110 225 563 CN-A- 110 431 888
CN-A- 111 200 859 US-A1- 2019 007 992
US-A1- 2019 053 104 US-A1- 2019 166 016
US-A1- 2020 196 227

- **Huawei Technologies: "pCR TR 32.899 Network Slicing", 3GPP Draft; S5-173236 Rel-15 pCR 32.899 Networkslicing, vol. SA WG5, 28 April 2017 (2017-04-28), pages 1-4, XP051269943, West Palm Beach, Florida(US)**
- **Qualcomm Incorporated: "TS 23.501: Handling of PDU sessions at slice unavailability", 3GPP Draft; S2-174018-was-173923-was-3105-23.501 - PDU sessions at slice unavailability, vol. SA WG2, 20 May 2017 (2017-05-20), pages 1-9, XP051289485, Hangzhou P R China**

Note: Within nine months of the publication of the mention of the grant of the European patent in the European Patent Bulletin, any person may give notice to the European Patent Office of opposition to that patent, in accordance with the Implementing Regulations. Notice of opposition shall not be deemed to have been filed until the opposition fee has been paid. (Art. 99(1) European Patent Convention).

Description**Technical Field**

[0001] The present disclosure relates to the field of mobile communications, and for example, relates to a method and system for adjusting a service priority of a user, and a storage medium.

Background

[0002] Currently, mobile communication technology has developed to the 5th Generation (5G) stage. Compared with previous network architectures, the main feature of a 5G network architecture is a servitization-based architecture. The 5G network supports various scenarios, and different scenarios have different requirements on functions and performances of the network. A Network Slicing (NS) technology can enable an operator to slice, on the same set of hardware infrastructure, a plurality of virtual logical end-to-end networks according to requirements. Network slices are logically isolated from each other, and may adapt to different feature requirements of various types of services. For example, the network slices may simultaneously satisfy different requirements, for the network, of services requiring high Quality of Service (QoS) assurance and of services requiring general QoS assurance.

[0003] After network slicing, in order to better use network resources, a dedicated Network Slice Instance (NSI) may be created in the network, so as to ensure a service of a high-priority user or a high-priority service. If a normal user subscribes to a short-term or long-term or other forms of VIP services by means of an Application (APP) or a Service Provider (SP) website or other manners due to poor service QoS assurance and poor service experience, then the user is upgraded to a high-priority user, or some services used by the user are upgraded to high-priority services.

[0004] However, if a normal-priority user has established a Packet Data Unit Session (PDU Session), then in order to ensure service experiences of these users, how to switch the established PDU Session to a dedicated NSI, so as to improve the service QoS assurance level of the user is a problem to be urgently solved at present.

[0005] US 2019/053104 describes that network slicing may be used to provide services for a wireless device. A network slice may be determined for the wireless device based on a required bandwidth for the network slice and/or charging information for the network slice.

Summary

[0006] Some embodiments of the present disclosure provide a method and system for adjusting a service priority of a user, and a storage medium, which may switch an established PDU Session to an appropriate NSI when a service priority of a user changes.

[0007] The present disclosure is set out in the appended set of claims.

[0008] According to a first aspect, the embodiments of the present disclosure provide a method for adjusting a service priority of a user, including:

an AF sends service priority change information of UE to a PCF, wherein the UE has registered with a network and activated a PDU Session, and a network slice identifier (S-NSSAI, also referred to as Single-Network Slice Selection Assistance Information) registered by the UE in the network is a first S-NSSAI, and a Network Slice Instance (NSI) corresponding to the first S-NSSAI is an NSI corresponding to a normal service priority user;

the PCF notifies an SMF corresponding to the activated PDU Session to deactivate the PDU Session activated by the UE;

the SMF corresponding to the activated PDU Session deactivates the PDU Session activated by the UE, and notifies the UE to reestablish a PDU Session;

an AMF receives a PDU Session establishment request sent by the UE, wherein the PDU Session establishment request carries the first S-NSSAI;

the AMF sends a service authorization request message to the PCF, wherein the service authorization request message includes an identifier of the UE and the first S-NSSAI;

the PCF modifies the first S-NSSAI into a changed S-NSSAI corresponding to the service priority change information according to the service priority change information of the UE;

the PCF sends a service authorization response message to the AMF, wherein the service authorization response message includes the changed S-NSSAI;

the AMF sends a user slice information acquisition request message to an NSSF, wherein the user slice information acquisition request message includes the changed S-NSSAI;

the NSSF sends a user slice information acquisition response message to the AMF, wherein the user slice information acquisition response message carries NSI information corresponding to the changed S-NSSAI;

the AMF selects an SMF corresponding to an NSI corresponding to the changed S-NSSAI according to the changed S-NSSAI, the NSI information corre-

sponding to the changed S-NSSAI and a DNN;

the AMF sends a create session context request message to the SMF corresponding to the NSI corresponding to the changed S-NSSAI, wherein the create session context request message carries the changed S-NSSAI;

the SMF corresponding to the NSI corresponding to the changed S-NSSAI sends a create session context response message to the AMF; and

the SMF corresponding to the NSI corresponding to the changed S-NSSAI, and the AMF establish a new PDU Session for the UE, wherein an S-NSSAI of the new PDU Session is the changed S-NSSAI.

[0009] According to a second aspect, the embodiments of the present disclosure provide a system for adjusting a service priority of a user, including: an AF, a PCF, an SMF, an AMF, and an NSSF.

[0010] The AF is configured to send service priority change information of UE to a PCF, wherein the UE has registered with a network and activated a PDU Session, and a network slice identifier (S-NSSAI) registered by the UE in the network is a first S-NSSAI, and a Network Slice Instance (NSI) corresponding to the first S-NSSAI is an NSI corresponding to a normal service priority user.

[0011] The PCF is configured to notify the SMF corresponding to the activated PDU Session to deactivate the PDU Session activated by the UE.

[0012] The SMF corresponding to the activated PDU Session is configured to deactivate the PDU Session activated by the UE, and notify the UE to reestablish a PDU Session.

[0013] The AMF is configured to receive a PDU Session establishment request sent by the UE, wherein the PDU Session establishment request carries the first S-NSSAI; and send a service authorization request message to the PCF, wherein the service authorization request message includes an identifier of the UE and the first S-NSSAI.

[0014] The PCF is further configured to modify the first S-NSSAI into a changed S-NSSAI corresponding to the service priority change information according to the service priority change information of the UE, and send a service authorization response message to the AMF, wherein the service authorization response message includes the changed S-NSSAI.

[0015] The AMF is further configured to send a user slice information acquisition request message to an NSSF, wherein the user slice information acquisition request message includes the changed S-NSSAI.

[0016] The NSSF is configured to send a user slice information acquisition response message to the AMF, wherein the user slice information acquisition response message carries NSI information corresponding to the changed S-NSSAI.

[0017] The AMF is further configured to select an SMF corresponding to an NSI corresponding to the changed S-NSSAI according to the changed S-NSSAI, the NSI information corresponding to the changed S-NSSAI and a DNN, and send a create session context request message to the SMF corresponding to the NSI corresponding to the changed S-NSSAI, wherein the create session context request message carries the changed S-NSSAI.

[0018] The SMF corresponding to the NSI corresponding to the changed S-NSSAI is configured to send a create session context response message to the AMF.

[0019] The SMF corresponding to the NSI corresponding to the changed S-NSSAI, and the AMF are further configured to establish a new PDU Session for the UE, wherein S-NSSAI of the new PDU Session is the changed S-NSSAI.

[0020] According to a third aspect, the embodiments of the present disclosure provide a computer-readable storage medium, on which a computer program is stored, wherein when the program is executed by a processor, the method for adjusting a service priority of a user according to the first aspect is implemented.

Brief Description of the Drawings

[0021]

Fig. 1 is a schematic diagram of a 5G network architecture;

Fig. 2 is a flowchart of a method for adjusting a service priority of a user provided according to some exemplary embodiments;

Fig. 3 is a flowchart of exemplary implementation of a method for adjusting a service priority of a user provided according to some exemplary embodiments;

Fig. 4 is a flowchart of exemplary implementation of another method for adjusting a service priority of a user provided according to some exemplary embodiments;

Fig. 5 is a flowchart of exemplary implementation of another method for adjusting a service priority of a user provided according to some exemplary embodiments; and

Fig. 6 is a schematic structural diagram of a system for adjusting a service priority of a user provided according to some exemplary embodiments.

Detailed Description

[0022] Hereinafter, exemplary embodiments of the present disclosure will be described in detail in combination with accompanying drawings.

[0023] Currently, mobile communication has developed to the 5G stage. Compared with the previous several generations, the main feature of a 5G network architecture is a servitization-based architecture.

[0024] Fig. 1 is a schematic diagram of a 5G network architecture. As shown in Fig. 1, functions of network elements in the 5G network architecture are as follows.

[0025] User Equipment (UE) mainly accesses a 5G network via a radio air interface to obtain a service; and a terminal exchanges information with a base station via the air interface, and exchanges information with an Access and Mobility Management function (AMF) of a core network via Non-Access Stratum (NAS) signaling.

[0026] Radio Access Network (RAN) is responsible for air interface resource scheduling and air interface connection management of a terminal access network.

[0027] Access and Mobility Management function (AMF), as a control plane entity of the core network, is mainly responsible for user mobility management, including functions such as, registration and temporary identifier allocation; maintenance of an IDLE state and a CONNECT state and state transition; switching in the CONNECT state; and triggering paging in a user IDLE state, etc.

[0028] Authentication Server Function (AUSF), as a control plane entity of the core network, is mainly responsible for authentication and authorization of a user, so as to ensure that the user is a valid user.

[0029] Unified Data Management (UDM) function, as a control plane entity of the core network, belongs to a user server, and permanently stores user subscription data.

[0030] Session Management function (SMF), as a control plane entity of the core network, is mainly responsible for maintaining a PDU Session. The SMF is responsible for allocating an Internet Protocol (IP) address of a user, and has functions such as QoS control and charging functions, and functions of buffering, when receiving a downlink data packet in an IDLE state of the user, the downlink data packet and notifying an AMF to page the user, etc.

[0031] User plane function (UPF), as a user plane functional entity of the core network, is responsible for forwarding user data packets, and also performing statistical calculation on the user data packets for functions such as charging.

[0032] Policy Control Functionality (PCF), as a control plane entity of the core network, is a functional entity responsible for an access and mobility management policy, a UE policy, a session management policy and a charging rule. The functional entity mainly generates an access and mobility management policy, a UE route selection policy, a QoS rule of user data transfer and a charging rule, etc. according to service information, user subscription information and operator configuration information.

[0033] Network Exposure Function (NEF), as a control plane entity of the core network, is responsible for exposure of mobile network capabilities to the outside.

[0034] Network Function Repository Function (NF Repository Function, NRF), as a control plane entity of the core network, is responsible for dynamic registration of service capabilities of a network function and network function discovery.

[0035] Network Slice Selection Function (NSSF), as a control plane entity of the core network, is responsible for selection of a target NSI.

[0036] Application Function (AF), as an application entity, is responsible for providing specific services for a user.

[0037] The 5G network supports various scenarios, and different scenarios have different requirements on functions and performances of the network. A Network Slicing (NS) technology can enable an operator to slice, on the same set of hardware infrastructure, a plurality of virtual logical end-to-end networks according to requirements. Network slices are logically isolated from each other, and may adapt to different feature requirements of various types of services. For example, the network slices may simultaneously satisfy different requirements, for the network, of services requiring high QoS assurance and of services requiring general QoS assurance. After network slicing, in order to better use network resources, a dedicated Network Slice Instance (NSI) may be created in the network, so as to ensure a service of a high-priority user or a high-priority service.

[0038] Fig. 2 is a flowchart of a method for adjusting a service priority of a user provided according to some exemplary embodiments. As shown in Fig. 2, the method for adjusting a service priority of a user provided in this embodiment includes operations S2010 to S2130.

[0039] At S2010, an AF sends service priority change information of UE to a PCF, wherein the UE has registered with a network and activated a PDU Session, and an S-NSSAI registered by the UE in the network is a first S-NSSAI, and an NSI corresponding to the first S-NSSAI is an NSI corresponding to a normal service priority user.

[0040] The method for adjusting a service priority of a user provided in this embodiment is applied to a network side in a 5G network, and an architecture of the 5G network is as shown in Fig. 1, wherein network functions except the UE and the RAN are all deployed at the network side, and each network function may be a function deployed in an independent device or a function deployed in multiple network devices.

[0041] In the network, at least two different service priorities are set, and the different service priorities have different QoS. Corresponding NSIs are respectively created for different service priorities in the network. If a normal user subscribes to a short-term or long-term or other forms of VIP services by means of an APP or an SP website or other manners due to poor service QoS assurance and poor service experience, then the user is upgraded to a high-priority user, or some services used by the user are upgraded to high-priority services. In order to ensure service experiences of these high-priority users, it is necessary to switch PDU Sessions estab-

lished by the users to dedicated NSIs, so as to improve the service QoS assurance level of the users. Alternatively, when a Very Important Person (VIP) service of a user who has subscribed to the VIP service expires or the user unsubscribes from the VIP service, it is necessary to switch a high-priority NSI used by the user to an NSI corresponding to a normal user.

[0042] First, when the AF determines that a service priority of the UE changes, the AF sends service priority change information of the UE to the PCF, wherein the UE has registered with a network and activated a PDU Session, and an S-NSSAI registered by the UE in the network is a first S-NSSAI, and an NSI corresponding to the first S-NSSAI is an NSI corresponding to a normal service priority user. That is to say, when the UE registered with the network, the first S-NSSAI corresponding to normal-priority UE is used.

[0043] After receiving high-priority service subscription information sent by the UE, the AF may send the high-priority service subscription information of the UE to the PCF, and at this time, an NSI corresponding to the PDU Session activated by the UE is an NSI used by a normal-priority user. That is to say, at this moment, the PDU Session activated by the UE is a first PDU Session, an NSI corresponding to the first PDU Session is a first NSI, and the first PDU Session and the first NSI correspond to the first S-NSSAI and correspond to the normal-priority user. The high-priority service subscription information is that when a user using the UE feels that the service experience is poor, the user subscribes to a short-term or long-term VIP service by a prompt on the APP so as to acquire better service experience, or for other reasons, the user subscribes to the VIP service via an APP client. Then the AF corresponding to the APP will receive the high-priority service subscription information sent by the UE.

[0044] After receiving high-priority service unsubscription information sent by the UE, the AF may also send the high-priority service subscription cancellation information to the PCF, and at this time, an NSI corresponding to the PDU Session activated by the UE is an NSI used by a high-priority user. That is to say, at this moment, the PDU Session activated by the UE is a second PDU Session, an NSI corresponding to the second PDU Session is a second NSI, and the second PDU Session and the second NSI correspond to a second S-NSSAI and correspond to the high-priority user. The high-priority service unsubscription information is sent actively when the user using the UE does not need to use the VIP service, or sent automatically when the VIP service subscribed by the UE expires.

[0045] When it is determined that a high-priority service subscribed by the UE expires and has not been renewed, the AF may also send high-priority service subscription cancellation information to the PCF, and at this time, an NSI corresponding to the PDU Session activated by the UE is an NSI used by a high-priority user. That is to say, at this moment, the PDU Session activated by the UE is

a second PDU Session, an NSI corresponding to the second PDU Session is a second NSI, and the second PDU Session and the second NSI correspond to a second S-NSSAI and correspond to the high-priority user. The high-priority service unsubscription information is sent actively when the user using the UE does not need to use the VIP service, or sent automatically when the VIP service subscribed by the UE expires.

[0046] The AF may send the service priority change information of the UE to the PCF via an NEF, or the AF may directly send the service priority change information of the UE to the PCF.

[0047] At S2020, the PCF notifies an SMF corresponding to the activated PDU Session to deactivate the PDU Session activated by the UE.

[0048] After receiving the service priority change information sent by the AF, the PCF learns that the service priority of the UE has changed, and at this time, the PCF notifies an SMF corresponding to the PDU Session activated by the UE to deactivate the PDU Session activated by the UE.

[0049] Before the PCF notifies an SMF corresponding to the activated PDU Session to deactivate the PDU Session activated by the UE, the PCF may further subscribe with the AMF for service authorization of the UE.

[0050] At S2030, the SMF corresponding to the activated PDU Session deactivates the PDU Session activated by the UE, and notifies the UE to reestablish a PDU Session.

[0051] After receiving a notification of deactivating the PDU Session sent by the PCF, the SMF corresponding to the PDU Session activated by the UE deactivates the PDU Session activated by the UE, and notifies the UE to reestablish a PDU Session. The service priority of the UE changes, and thus the PDU Session activated by the UE cannot satisfy QoS requirement of the UE; therefore, the UE needs to reestablish a PDU Session, and the PDU Session reestablished by the UE corresponds to the changed priority of the UE.

[0052] At S2040, the AMF receives a PDU Session establishment request sent by the UE, wherein the PDU Session establishment request carries the first S-NSSAI.

[0053] The PDU Session establishment request sent by the UE is received by the AMF, and since S-NSSAI used when the UE registered with the network is the first S-NSSAI, the PDU Session establishment request sent by the UE carries the first S-NSSAI.

[0054] At S2050, the AMF sends a service authorization request message to the PCF, wherein the service authorization request message includes an identifier of the UE and the first S-NSSAI.

[0055] After receiving the PDU Session establishment request, the AMF sends the service authorization request message to the PCF, wherein the service authorization request message includes an identifier of the UE and the first S-NSSAI. The identifier of the UE may be a Subscription Permanent Identifier (SUPI).

[0056] At S2060, the PCF modifies the first S-NSSAI

into a changed S-NSSAI corresponding to the service priority change information according to the service priority change information of the UE.

[0057] As the PCF has received the service priority change information of the UE sent by the AF, the PCF has learned that the service priority of the UE has changed. Then, after receiving the service authorization request message sent by the AMF, the PCF first determines information of the UE according to the identifier of the UE, and determines that the UE is UE of which the service priority has changed. Subsequently, the PCF modifies the first S-NSSAI corresponding to the UE into a changed S-NSSAI corresponding to the service priority change information. The changed S-NSSAI may be the same as or different from the first S-NSSAI.

[0058] At S2070, the PCF sends a service authorization response message to the AMF, wherein the service authorization response message includes the changed S-NSSAI.

[0059] After the PCF modifies the first S-NSSAI into the changed S-NSSAI, the PCF sends the service authorization response message to the AMF, wherein the service authorization response message includes the changed S-NSSAI;

[0060] At S2080, the AMF sends a user slice information acquisition request message to a Network Slice Selection Function (NSSF), wherein the user slice information acquisition request message includes the changed S-NSSAI.

[0061] After receiving the service authorization response message, the AMF may establish a new PDU Session for the UE according to the changed S-NSSAI carried in the service authorization response message. The AMF first sends the user slice information acquisition request message to the NSSF, wherein the user slice information acquisition request message includes the changed S-NSSAI.

[0062] At S2090, the NSSF sends a user slice information acquisition response message to the AMF, wherein the user slice information acquisition response message carries NSI information corresponding to the changed S-NSSAI.

[0063] After receiving the user slice information response message sent by the AMF, the NSSF allocates a corresponding NSI to the changed S-NSSAI, and then sends the NSI information corresponding to the changed S-NSSAI to the AMF.

[0064] At S2100, the AMF selects an SMF corresponding to an NSI corresponding to the changed S-NSSAI according to the changed S-NSSAI, the NSI information corresponding to the changed S-NSSAI and a DNN.

[0065] At S2110, the AMF sends a create session context request message to the SMF corresponding to the NSI corresponding to the changed S-NSSAI, wherein the create session context request message carries the changed S-NSSAI.

[0066] In some exemplary embodiments, in the create session context request message sent by the AMF to the

SMF corresponding to the NSI corresponding to the changed S-NSSAI, the first S-NSSAI is further included. The first S-NSSAI is used for subscription checking, that is, the SMF corresponding to the NSI corresponding to the changed S-NSSAI acquires subscription data of the UE from UDM.

[0067] At S2120, the SMF corresponding to the NSI corresponding to the changed S-NSSAI sends a create session context response message to the AMF.

[0068] At S2130, the SMF corresponding to the NSI corresponding to the changed S-NSSAI, and the AMF establish a new PDU Session for the UE, wherein an S-NSSAI of the new PDU Session is the changed S-NSSAI.

[0069] The operation S2130 may include: when the SMF selects the PCF and acquires a Session Management Policy (SM Policy) from the PCF, the SMF provides the changed S-NSSAI to the PCF; and the SMF selects a UPF, and completes N4 session creation to the UPF. The SMF constructs an N2 PDU Session request message, wherein the message carries the changed S-NSSAI; and the SMF constructs a PDU Session establishment acceptance message. The SMF sends an N1N2 message transfer message to the AMF, wherein the message carries the N2 PDU Session request message and the PDU Session establishment acceptance message. The AMF sends the N2 PDU Session request message to the RAN, wherein the message includes the PDU Session establishment acceptance message. The RAN sends the PDU Session establishment acceptance message to the UE. The RAN returns an N2 PDU Session response message to the AMF. The AMF sends an update session context request message to the SMF, wherein the message carries the N2 PDU Session response message. The SMF updates an N4 session. The SMF returns an update session context response message to the AMF. Finally, the UE accesses a service by means of the NSI corresponding to the changed S-NSSAI.

[0070] The method for adjusting a service priority of a user provided in this embodiment solves the problem of how to switch an established PDU Session to an appropriate NSI when a priority of a UE or a service priority of a user changes. By means of the method of the present embodiment, when a priority of a user or a service priority of a user changes, an established PDU Session may be switched to an appropriate NSI, so that the service experience of a high-priority user or of a high-priority service of a user is better ensured.

[0071] Fig. 3 is an implementation flowchart of a method for adjusting a service priority of a user provided according to some exemplary embodiments. This embodiment is an embodiment in which UE subscribes to a VIP service, and an AF notifies a 5G network via an NEF. As shown in Fig. 3, the method for adjusting a service priority of a user provided in this embodiment includes operations 200 to 230.

[0072] At 200, for a certain service, a 5G network has instantiated two NSIs: NSI1 and NSI2. NSI1 refers to a

normal user using the service, and a corresponding S-NSSAI is S-NSSAI1. NSI2 refers to a high-priority user using the service, and a corresponding S-NSSAI is S-NSSAI2.

[0073] At 201, UE registers with the 5G network and activates a PDU Session, an S-NSSAI of the activated PDU Session is the S-NSSAI1, and the PDU Session corresponds to the NSI1.

[0074] At 202, if a user feels that the service experience is poor, or an APP prompts that a short-term or long-term VIP service may be subscribed to acquire a better service experience, or for other reasons, the user subscribes to the VIP service via an APP client.

[0075] At 203, an AF notifies a NEF that the user has subscribed to the VIP service.

[0076] At 204, the NEF notifies a PCF that the user has subscribed to the VIP service.

[0077] At 205, the PCF subscribes with an AMF for a user requiring service authorization, wherein the user is the user who has subscribed to the VIP service.

[0078] At 206, the PCF notifies an SMF to deactivate the established PDU Session which is affected.

[0079] At 207, the SMF completes a flow of deactivating the established PDU Session, and requests the UE to reestablish a PDU Session when deactivating the established PDU Session.

[0080] At 208, the UE determines to re-initiate a PDU Session, and determines that information such as S-NSSAI used by the PDU Session is consistent with the previously deactivated PDU Session, i.e. S-NSSAI1.

[0081] At 209, the UE sends a PDU Session establishment request message carrying information such as the S-NSSAI1.

[0082] At 210, after receiving the PDU Session establishment request message, the AMF sends, to the PCF, a service authorization request message carrying information such as SUPI and the S-NSSAI1.

[0083] At 211, the PCF determines that S-NSSAI used by the service is S-NSSAI2 according to a priority of the user.

[0084] At 212, the PCF returns a service authorization response message to the AMF, and returns modified S-NSSAI2.

[0085] At 213, the AMF sends, to an NSSF, a user slice information acquisition request message carrying information such as the S-NSSAI2.

[0086] At 214, the NSSF selects information such as the NSI2 for the PDU Session according to information such as the S-NSSAI2.

[0087] At 215, the NSSF returns, to the AMF, a user slice information acquisition response message carrying information such as the NSI2.

[0088] At 216, the AMF selects an SMF according to information such as the S-NSSAI2, a DNN, and the NSI2.

[0089] At 217, the AMF sends a create session context request message to the SMF, the message carrying information such as a requested S-NSSAI and an authorized S-NSSAI, wherein the requested S-NSSAI is the S-

NSSAI1, and the authorized S-NSSAI is the S-NSSAI2.

[0090] At 218, the SMF acquires subscription data from UDM.

[0091] At 219, the SMF returns a create session context response message to the AMF.

[0092] At 220, when the SMF selects the PCF and acquires a Session Management Policy (SM Policy) from the PCF, the SMF provides the S-NSSAI2 to the PCF.

[0093] At 221, the SMF selects a UPF, and completes N4 session creation to the UPF.

[0094] At 222, the SMF constructs an N2 PDU Session request message, the message carrying the S-NSSAI2; and the SMF constructs a PDU Session establishment acceptance message.

[0095] At 223, the SMF sends an N1N2 message transfer message to the AMF, wherein the message carries the N2 PDU Session request message and the PDU Session establishment acceptance message.

[0096] At 224, the AMF sends the N2 PDU Session request message to an RAN, wherein the message includes the PDU Session establishment acceptance message.

[0097] At 225, the RAN sends the PDU Session establishment acceptance message to the UE.

[0098] At 226, the RAN returns an N2 PDU Session response message to the AMF.

[0099] At 227, the AMF sends an update session context request message to the SMF, wherein the message carries the N2 PDU Session response message.

[0100] At 228, the SMF updates an N4 session.

[0101] At 229, the SMF returns an update session context response message to the AMF.

[0102] At 230, the UE accesses the service by means of the NSI2.

[0103] Fig. 4 is an implementation flowchart of another method for adjusting a service priority of a user provided according to some exemplary embodiments. This embodiment is an exemplary embodiment in which UE subscribes to a VIP service, and an AF directly notifies a PCF. As shown in Fig. 4, the method for adjusting a service priority of a user provided in this embodiment includes operations 300 to 329.

[0104] At 300, for a certain service, a 5G network has instantiated two NSIs: NSI1 and NSI2. NSI1 refers to a normal user using the service, and a corresponding S-NSSAI is S-NSSAI1. NSI2 refers to a high-priority user using the service, and a corresponding S-NSSAI is S-NSSAI2.

[0105] At 301, UE registers with the 5G network and activates a PDU Session, an S-NSSAI of the activated PDU Session is the S-NSSAI1, and the PDU Session corresponds to the NSI1.

[0106] At 302, if a user feels that the service experience is poor, or an APP prompts that a short-term or long-term VIP service may be subscribed to acquire a better service experience, or for other reasons, the user subscribes to the VIP service via an APP client.

[0107] At 303, an AF notifies a PCF that the user has

subscribed to the VIP service.

[0108] At 304, the PCF subscribes with an AMF for a user requiring service authorization, wherein the user is the user who has subscribed to the VIP service.

[0109] At 305, the PCF notifies an SMF to deactivate the established PDU Session which is affected.

[0110] At 306, the SMF completes a flow of deactivating the established PDU Session, and requests the UE to reestablish a PDU Session when deactivating the established PDU Session.

[0111] At 307, the UE determines to re-initiate a PDU Session, and determines that information such as S-NSSAI used by the PDU Session is consistent with the previously deactivated PDU Session, i.e. S-NSSAI1.

[0112] At 308, the UE sends a PDU Session establishment request message carrying information such as the S-NSSAI1.

[0113] At 309, after receiving the PDU Session establishment request message, the AMF sends, to the PCF, a service authorization request message carrying information such as SUPI and the S-NSSAI1.

[0114] At 310, the PCF determines that an S-NSSAI used by the service is S-NSSAI2 according to a priority of the user.

[0115] At 311, the PCF returns a service authorization response message to the AMF, and returns modified S-NSSAI2.

[0116] At 312, the AMF sends, to an NSSF, a user slice information acquisition request message carrying information such as the S-NSSAI2.

[0117] At 313, the NSSF selects information such as the NSI2 for the PDU Session according to information such as the S-NSSAI2.

[0118] At 314, the NSSF returns, to the AMF, a user slice information acquisition response message carrying information such as the NSI2.

[0119] At 315, the AMF selects an SMF according to information such as the S-NSSAI2, a DNN, and the NSI2.

[0120] At 316, the AMF sends a create session context request message to the SMF, the message carrying information such as a requested S-NSSAI and an authorized S-NSSAI, wherein the requested S-NSSAI is the S-NSSAI1, and the authorized S-NSSAI is the S-NSSAI2.

[0121] At 317, the SMF acquires subscription data from UDM.

[0122] At 318, the SMF returns a create session context response message to the AMF.

[0123] At 319, when the SMF selects the PCF and acquires a Session Management Policy (SM Policy) from the PCF, the SMF provides the S-NSSAI2 to the PCF.

[0124] At 320, the SMF selects a UPF, and completes N4 session creation to the UPF.

[0125] At 321, the SMF constructs an N2 PDU Session request message, the message carrying the S-NSSAI2; and the SMF constructs a PDU Session establishment acceptance message.

[0126] At 322, the SMF sends an N1N2 message transfer message to the AMF, wherein the message carries

the N2 PDU Session request message and the PDU Session establishment acceptance message.

[0127] At 323, the AMF sends the N2 PDU Session request message to a RAN, wherein the message includes the PDU Session establishment acceptance message.

[0128] At 324, the RAN sends the PDU Session establishment acceptance message to the UE.

[0129] At 325, the RAN returns an N2 PDU Session response message to the AMF.

[0130] At 326, the AMF sends an update session context request message to the SMF, wherein the message carries the N2 PDU Session response message.

[0131] At 327, the SMF updates an N4 session.

[0132] At 328, the SMF returns an update session context response message to the AMF.

[0133] At 329, the UE accesses the service by means of the NSI2.

[0134] Fig. 5 is an implementation flowchart of another method for adjusting a service priority of a user provided according to some exemplary embodiments. This embodiment is an exemplary embodiment in which a VIP service subscribed by UE expires, and an AF notifies a 5G network via an NEF. As shown in Fig. 5, the method for adjusting a service priority of a user provided in this embodiment includes operations 400 to 430.

[0135] At 400, for a certain service, a 5G network has instantiated two NSIs: NSI1 and NSI2. NSI1 refers to a normal user using the service, and a corresponding S-NSSAI is S-NSSAI1. NSI2 refers to a high-priority user using the service, and a corresponding S-NSSAI is S-NSSAI2.

[0136] At 401, UE registers with a 5G network and activates a PDU Session, wherein the PDU Session corresponds to the NSI2.

[0137] At 402, a VIP service previously subscribed by the user expires without renewal.

[0138] At 403, an AF notifies an NEF that the user has cancelled the subscribed VIP service.

[0139] At 404, the NEF notifies a PCF that the user has cancelled the subscribed VIP service.

[0140] At 405, the PCF subscribes with an AMF for a user requiring service authorization, wherein the user is the user who has subscribed to the VIP service.

[0141] At 406, the PCF notifies an SMF to deactivate the established PDU Session which is affected.

[0142] At 407, the SMF completes a flow of deactivating the established PDU Session, and requests the UE to reestablish a PDU Session when deactivating the established PDU Session.

[0143] At 408, the UE determines to re-initiate a PDU Session, and determines that information such as S-NSSAI used by the PDU Session is consistent with the previously deactivated PDU Session, i.e. S-NSSAI1.

[0144] At 409, the UE sends a PDU Session establishment request message carrying information such as the S-NSSAI1.

[0145] At 410, after receiving the PDU Session estab-

lishment request message, the AMF sends, to the PCF, a service authorization request message carrying information such as SUPI and the S-NSSAI1.

[0146] At 411, the PCF determines that an S-NSSAI used by the service is S-NSSAI1 according to a priority of the user.

[0147] At 412, the PCF returns a service authorization response message to the AMF, and returns a modified S-NSSAI1.

[0148] At 413, the AMF sends, to an NSSF, a user slice information acquisition request message carrying information such as the S-NSSAI1.

[0149] At 414, the NSSF selects information such as the NSI1 for the PDU Session according to information such as the S-NSSAI1.

[0150] At 415, the NSSF returns, to the AMF, a user slice information acquisition response message carrying information such as the NSI1.

[0151] At 416, the AMF selects an SMF according to information such as the S-NSSAI1, a DNN, and the NSI1.

[0152] At 417, the AMF sends a create session context request message to the SMF, the message carrying information such as a requested S-NSSAI, wherein the requested S-NSSAI is the S-NSSAI1.

[0153] At 418, the SMF acquires subscription data from UDM.

[0154] At 419, the SMF returns a create session context response message to the AMF.

[0155] At 420, when the SMF selects the PCF and acquires a Session Management Policy (SM Policy) from the PCF, the SMF provides the S-NSSAI1 to the PCF.

[0156] At 421, the SMF selects a UPF, and completes N4 session creation to the UPF.

[0157] At 422, the SMF constructs an N2 PDU Session request message, the message carrying the S-NSSAI1; and the SMF constructs a PDU Session establishment acceptance message.

[0158] At 423, the SMF sends an N1N2 message transfer message to the AMF, wherein the message carries the N2 PDU Session request message and the PDU Session establishment acceptance message.

[0159] At 424, the AMF sends the N2 PDU Session request message to a RAN, wherein the message includes the PDU Session establishment acceptance message.

[0160] At 425, the RAN sends the PDU Session establishment acceptance message to the UE.

[0161] At 426, the RAN returns an N2 PDU Session response message to the AMF.

[0162] At 427, the AMF sends an update session context request message to the SMF, wherein the message carries the N2 PDU Session response message.

[0163] At 428, the SMF updates an N4 session.

[0164] At 429, the SMF returns an update session context response message to the AMF.

[0165] At 430, the UE accesses the service by means of the NSI1.

[0166] Fig. 6 is a schematic structural diagram of a

system for adjusting a service priority of a user provided according to some exemplary embodiments. As shown in Fig. 6, the system for adjusting a service priority of a user provided in this embodiment includes: an AF, a PCF, an SMF, an AMF, and an NSSF.

[0167] The AF is configured to send service priority change information of UE to a PCF, wherein the UE has registered with a network and activated a PDU Session, and an S-NSSAI registered by the UE in the network is a first S-NSSAI, and an NSI corresponding to the first S-NSSAI is an NSI corresponding to a normal service priority user. The PCF is configured to notify an SMF corresponding to the activated PDU Session to deactivate the PDU Session activated by the UE. The SMF corresponding to the activated PDU Session is configured to deactivate the PDU Session activated by the UE, and notify the UE to reestablish a PDU Session. The AMF is configured to receive a PDU Session establishment request sent by the UE, wherein the PDU Session establishment request carries the first S-NSSAI; and send a service authorization request message to the PCF, wherein the service authorization request message includes an identifier of the UE and the first S-NSSAI. The PCF is further configured to modify the first S-NSSAI into a changed S-NSSAI corresponding to the service priority change information according to the service priority change information of the UE, and send a service authorization response message to the AMF, wherein the service authorization response message includes the changed S-NSSAI. The AMF is further configured to send a user slice information acquisition request message to an NSSF, wherein the user slice information acquisition request message includes the changed S-NSSAI. The NSSF is configured to send a user slice information acquisition response message to the AMF, wherein the user slice information acquisition response message carries NSI information corresponding to the changed S-NSSAI. The AMF is further configured to select an SMF corresponding to an NSI corresponding to the changed S-NSSAI according to the changed S-NSSAI, the NSI information corresponding to the changed S-NSSAI and a DNN, and send a create session context request message to the SMF corresponding to the NSI corresponding to the changed S-NSSAI, wherein the create session context request message carries the changed S-NSSAI. The SMF corresponding to the NSI corresponding to the changed S-NSSAI is configured to send a create session context response message to the AMF. The SMF corresponding to the NSI corresponding to the changed S-NSSAI, and the AMF are further configured to establish a new PDU Session for the UE, wherein S-NSSAI of the new PDU Session is the changed S-NSSAI.

[0168] The system for adjusting a service priority of a user provided in this embodiment is used to implement the technical solution of the method for adjusting a service priority of a user as shown in Fig. 2, and the implementation principles and technical effects are similar, and thus will not be described herein again.

[0169] On the basis of the exemplary embodiment as shown in Fig. 6, the PCF is further configured to subscribe with the AMF for service authorization of the UE before notifying the SMF corresponding to the activated PDU Session to deactivate the PDU Session activated by the UE.

[0170] On the basis of the exemplary embodiment as shown in Fig. 6, the AF is configured to send the service priority change information of the UE to the PCF via a Network Exposure Function (NEF).

[0171] On the basis of the exemplary embodiment as shown in Fig. 6, the AF is further configured to receive and acquire high-priority service subscription information sent by the UE; and send the high-priority service subscription information of the UE to the PCF, wherein an NSI corresponding to the PDU Session activated by the UE is an NSI used by a normal-priority user, and an NSI corresponding to the new PDU Session is an NSI used by a high-priority user.

[0172] On the basis of the exemplary embodiment as shown in Fig. 6, the AF is configured to send high-priority service subscription cancellation information of the UE to the PCF in a case of determining that a high-priority service subscribed by the UE expires and has not been renewed or in a case of receiving high-priority service unsubscription information sent by the UE, wherein an NSI corresponding to the PDU Session activated by the UE is an NSI used by a high-priority user, and an NSI corresponding to the new PDU Session is an NSI used by a normal-priority user.

[0173] On the basis of the exemplary embodiment as shown in Fig. 6, the create session context request message further carries the first S-NSSAI, and the first S-NSSAI is used for subscription check.

[0174] Embodiments of the present disclosure further provide a storage medium containing computer-executable instructions; the computer-executable instructions, when executed by a processor of a computer, are used for executing a method for adjusting a service priority of a user. The method includes: an AF sends service priority change information of UE to a PCF, wherein the UE has registered with a network and activated a PDU Session, and an S-NSSAI registered by the UE in the network is a first S-NSSAI, and an NSI corresponding to the first S-NSSAI is an NSI corresponding to a normal service priority user; the PCF notifies an SMF corresponding to the activated PDU Session to deactivate the PDU Session activated by the UE; the SMF corresponding to the activated PDU Session deactivates the PDU Session activated by the UE, and notifies the UE to reestablish a PDU Session; an AMF receives a PDU Session establishment request sent by the UE, wherein the PDU Session establishment request carries the first S-NSSAI; the AMF sends a service authorization request message to the PCF, wherein the service authorization request message includes an identifier of the UE and the first S-NSSAI; the PCF modifies the first S-NSSAI into a changed S-NSSAI corresponding to the service priority change in-

formation according to the service priority change information of the UE; the PCF sends a service authorization response message to the AMF, wherein the service authorization response message includes the changed S-NSSAI; the AMF sends a user slice information acquisition request message to an NSSF, wherein the user slice information acquisition request message includes the changed S-NSSAI; the NSSF sends a user slice information acquisition response message to the AMF, wherein the user slice information acquisition response message carries NSI information corresponding to the changed S-NSSAI; the AMF selects an SMF corresponding to an NSI corresponding to the changed S-NSSAI, the NSI information corresponding to the changed S-NSSAI and a DNN; the AMF sends a create session context request message to the SMF corresponding to the NSI corresponding to the changed S-NSSAI, wherein the create session context request message carries the changed S-NSSAI; the SMF corresponding to the NSI corresponding to the changed S-NSSAI sends a create session context response message to the AMF; and the SMF corresponding to the NSI corresponding to the changed S-NSSAI, and the AMF establish a new PDU Session for the UE, wherein S-NSSAI of the new PDU Session is the changed S-NSSAI.

[0175] The content above merely relates to exemplary embodiments of the present disclosure, and is not intended to limit the scope of protection of the present disclosure.

[0176] A person having ordinary skill in the art would understand that the term user terminal encompasses any suitable type of wireless user equipment, such as a mobile phone, a portable data processing apparatus, a portable web browser, or an in-vehicle mobile station.

[0177] In general, the multiple embodiments of the present disclosure may be implemented in hardware or dedicated circuit, software, logic, or any combination thereof. For example, some aspects may be implemented in hardware, while other aspects may be implemented in firmware or software that may be executed by a controller, a microprocessor or other computing devices, although the present disclosure is not limited thereto.

[0178] Embodiments of the present disclosure may be implemented by execution of computer program instructions by a data processor of a mobile apparatus, such as in a processor entity, or by hardware, or by a combination of software and hardware. The computer program instructions may be assembly instructions, Instruction Set Architecture (ISA) instructions, machine instructions, machine-related instructions, microcodes, firmware instructions, state setting data, or source codes or object codes written in any combination of one or more programming languages.

[0179] The block diagrams of any logic flow in the accompanying drawings of the present disclosure may represent program operations, or may represent interconnected logic circuits, modules and functions, or may rep-

resent a combination of program operations and logic circuits, modules, and functions. A computer program may be stored on a memory. The memory may be of any type suitable for local technical environment and may be implemented using any suitable data storage technology, such as, but not limited to, Read-Only Memory (ROM), Random Access Memory (RAM), optical storage apparatus and system (Digital Video Disc (DVD) or Compact Disc (CD)), etc. A computer-readable medium may include a non-transitory storage medium. The data processor may be of any type suitable for local technical environment, such as, but not limited to, a general-purpose computer, a special-purpose computer, a microprocessor, a Digital Signal Processor (DSP), an Application Specific Integrated Circuit (ASIC), a programmable logic device (Field-Programmable Gate Array, FPGA), and a processor based on a multi-core processor architecture.

Industrial Applicability

[0180] In the present disclosure, by a method in which an Application Function (AF) sends service priority change information of User Equipment (UE) to a Policy Control Functionality (PCF), wherein the UE has registered with a network and activated a Packet Data Unit Session (PDU Session), and a network slice identifier (S-NSSAI) registered by the UE in the network is a first S-NSSAI, and an NSI corresponding to the first S-NSSAI is an NSI corresponding to a normal service priority user; the PCF notifies a Session Management function (SMF) corresponding to the activated PDU Session to deactivate the PDU Session activated by the UE; the SMF corresponding to the activated PDU Session deactivates the PDU Session activated by the UE, and notifies the UE to reestablish a PDU Session; an Access and Mobility Management function (AMF) receives a PDU Session establishment request sent by the UE, wherein the PDU Session establishment request carries the first S-NSSAI; the AMF sends a service authorization request message to the PCF, wherein the service authorization request message includes an identifier of the UE and the first S-NSSAI; the PCF modifies the first S-NSSAI into a changed S-NSSAI corresponding to the service priority change information according to the service priority change information of the UE; the PCF sends a service authorization response message to the AMF, wherein the service authorization response message includes the changed S-NSSAI; the AMF sends a user slice information acquisition request message to a Network Slice Selection Function (NSSF), wherein the user slice information acquisition request message includes the changed S-NSSAI; the NSSF sends a user slice information acquisition response message to the AMF, wherein the user slice information acquisition response message carries NSI information corresponding to the changed S-NSSAI; the AMF selects an SMF corresponding to an NSI corresponding to the changed S-NSSAI according to the changed S-NSSAI, the NSI information corresponding to

the changed S-NSSAI and a data network name (DNN); the AMF sends a create session context request message to the SMF corresponding to the NSI corresponding to the changed S-NSSAI, wherein the create session context request message carries the changed S-NSSAI; the SMF corresponding to the NSI corresponding to the changed S-NSSAI sends a create session context response message to the AMF; and the SMF corresponding to the NSI corresponding to the changed S-NSSAI, and the AMF establish a new PDU Session for the UE, wherein S-NSSAI of the new PDU Session is the changed S-NSSAI, the problem of how to switch an established PDU Session to an appropriate NSI when a priority of a UE or a service priority of a user changes is solved, and when a priority of a user or a service priority of a user changes, an established PDU Session may be switched to an appropriate NSI, so that the service experience of a high-priority user or of a high-priority service of a user is better ensured.

Claims

1. A method for adjusting a service priority of a user, comprising:

sending (S2010), by an Application Function, AF, service priority change information of User Equipment, UE, to a Policy Control Functionality, PCF, wherein the UE has registered with a network and activated a Packet Data Unit Session, PDU Session, and a network slice identifier, S-NSSAI, registered by the UE in the network is a first S-NSSAI, and a Network Slice Instance, NSI, corresponding to the first S-NSSAI is an NSI corresponding to a normal service priority user; notifying (S2020), by the PCF, a Session Management function, SMF, corresponding to the activated PDU Session to deactivate the PDU Session activated by the UE; deactivating (S2030), by the SMF corresponding to the activated PDU Session, the PDU Session activated by the UE, and notifying (S2030), by the SMF corresponding to the activated PDU Session, the UE to reestablish a PDU Session; receiving (S2040), by an Access and Mobility Management function, AMF, a PDU Session establishment request sent by the UE, wherein the PDU Session establishment request carries the first S-NSSAI; sending (S2050), by the AMF, a service authorization request message to the PCF, wherein the service authorization request message comprises an identifier of the UE and the first S-NSSAI; modifying (S2060), by the PCF, the first S-NSSAI into a changed S-NSSAI corresponding to

- the service priority change information according to the service priority change information of the UE;
- sending (S2070), by the PCF, a service authorization response message to the AMF, wherein the service authorization response message comprises the changed S-NSSAI;
- sending (S2080), by the AMF, a user slice information acquisition request message to a Network Slice Selection Function, NSSF, wherein the user slice information acquisition request message comprises the changed S-NSSAI;
- sending (S2090), by the NSSF, a user slice information acquisition response message to the AMF, wherein the user slice information acquisition response message carries NSI information corresponding to the changed S-NSSAI;
- selecting (S2100), by the AMF, an SMF corresponding to an NSI corresponding to the changed S-NSSAI according to the changed S-NSSAI, the NSI information corresponding to the changed S-NSSAI and a data network name, DNN;
- sending (S2110), by the AMF, a create session context request message to the SMF corresponding to the NSI corresponding to the changed S-NSSAI, wherein the create session context request message carries the changed S-NSSAI;
- sending (S2120), by the SMF corresponding to the NSI corresponding to the changed S-NSSAI, a create session context response message to the AMF; and
- establishing (S2130), by the SMF corresponding to the NSI corresponding to the changed S-NSSAI, and the AMF, a new PDU Session for the UE, wherein an S-NSSAI of the new PDU Session is the changed S-NSSAI.
2. The method according to claim 1, wherein before notifying (S2020), by the PCF, the SMF corresponding to the activated PDU Session to deactivate the PDU Session activated by the UE, the method further comprises:

subscribing, by the PCF, with the AMF for service authorization of the UE.
 3. The method according to claim 1, wherein sending (S2010), by the AF, the service priority change information of the UE to the PCF comprises:

sending, by the AF, the service priority change information of the UE to the PCF via a Network Exposure Function, NEF.
 4. The method according to any one of claims 1-3, wherein before sending (S2010), by the AF, the service priority change information of the UE to the PCF, the method further comprises:

receiving and acquiring, by the AF, high-priority service subscription information sent by the UE; and

sending (S2010), by the AF, the service priority change information of the UE to the PCF comprises:

sending, by the AF, the high-priority service subscription information of the UE to the PCF, wherein an NSI corresponding to the PDU Session activated by the UE is an NSI used by a normal-priority user, and an NSI corresponding to the new PDU Session is an NSI used by a high-priority user.
 5. The method according to any one of claims 1-3, wherein sending (S2010), by the AF, the service priority change information of the UE to the PCF comprises:

sending, by the AF, high-priority service subscription cancellation information of the UE to the PCF in a case where the AF determines that a high-priority service subscribed by the UE expires and has not been renewed or in a case where the AF receives high-priority service unsubscription information sent by the UE, wherein an NSI corresponding to the PDU Session activated by the UE is an NSI used by a high-priority user, and an NSI corresponding to the new PDU Session is an NSI used by a normal-priority user.
 6. The method according to any one of claims 1-3, wherein the create session context request message further carries the first S-NSSAI, and the first S-NSSAI is used for subscription check.
 7. The method according to any one of claims 1-3, wherein the PDU Session reestablished by the UE corresponds to a changed priority of the UE.
 8. The method according to any one of claims 1-3, wherein the identifier of the UE is a Subscription Permanent Identifier, SUPI.
 9. A system for adjusting a service priority of a user, comprising: an Application Function, AF, a Policy Control Functionality, PCF, a Session Management function, SMF, an Access and Mobility Management function, AMF, and a Network Slice Selection Function, NSSF, wherein

the AF is configured to send service priority change information of User Equipment, UE, to the PCF, wherein the UE has registered with a network and activated a Packet Data Unit Session, PDU Session, and a network slice identifier, S-NSSAI, registered by the UE in the network is a first S-NSSAI, and a Network Slice Instance, NSI, corresponding to the first S-NSSAI

SAI is an NSI corresponding to a normal service priority user;
 the PCF is configured to notify the SMF corresponding to the activated PDU Session to deactivate the PDU Session activated by the UE;
 the SMF corresponding to the activated PDU Session is configured to deactivate the PDU Session activated by the UE, and notify the UE to reestablish a PDU Session;
 the AMF is configured to receive a PDU Session establishment request sent by the UE, wherein the PDU Session establishment request carries the first S-NSSAI; and send a service authorization request message to the PCF, wherein the service authorization request message comprises an identifier of the UE and the first S-NSSAI;
 the PCF is further configured to modify the first S-NSSAI into a changed S-NSSAI corresponding to the service priority change information according to the service priority change information of the UE, and send a service authorization response message to the AMF, wherein the service authorization response message comprises the changed S-NSSAI;
 the AMF is further configured to send a user slice information acquisition request message to an NSSF, wherein the user slice information acquisition request message comprises the changed S-NSSAI;
 the NSSF is configured to send a user slice information acquisition response message to the AMF, wherein the user slice information acquisition response message carries NSI information corresponding to the changed S-NSSAI;
 the AMF is further configured to select an SMF corresponding to an NSI corresponding to the changed S-NSSAI according to the changed S-NSSAI, the NSI information corresponding to the changed S-NSSAI and a data network name, DNN, and send a create session context request message to the SMF corresponding to the NSI corresponding to the changed S-NSSAI, wherein the create session context request message carries the changed S-NSSAI;
 the SMF corresponding to the NSI corresponding to the changed S-NSSAI is configured to send a create session context response message to the AMF; and
 the SMF corresponding to the NSI corresponding to the changed S-NSSAI, and the AMF are further configured to establish a new PDU Session for the UE, wherein S-NSSAI of the new PDU Session is the changed S-NSSAI.

10. The system according to claim 9, wherein the PCF is further configured to subscribe with the AMF for service authorization of the UE before notifying the

SMF corresponding to the activated PDU Session to deactivate the PDU Session activated by the UE.

11. The system according to claim 9, wherein the AF is configured to send the service priority change information of the UE to the PCF via a Network Exposure Function, NEF.
12. The system according to any one of claims 9-11, wherein the AF is further configured to receive and acquire high-priority service subscription information sent by the UE, and send the high-priority service subscription information of the UE to the PCF, wherein an NSI corresponding to the PDU Session activated by the UE is an NSI used by a normal-priority user, and an NSI corresponding to the new PDU Session is an NSI used by a high-priority user.
13. The system according to any one of claims 9-11, wherein the AF is configured to send high-priority service subscription cancellation information of the UE to the PCF in a case of determining that a high-priority service subscribed by the UE expires and has not been renewed or in a case of receiving high-priority service unsubscription information sent by the UE, wherein an NSI corresponding to the PDU Session activated by the UE is an NSI used by a high-priority user, and an NSI corresponding to the new PDU Session is an NSI used by a normal-priority user.
14. The system according to any one of claims 9-11, wherein the create session context request message further carries the first S-NSSAI, and the first S-NSSAI is used for subscription check.
15. A computer-readable storage medium, on which a computer program is stored, wherein the computer program, when executed by a processor, causes the processor to implement the method for adjusting a service priority of a user according to any one of claims 1-8.

Patentansprüche

1. Verfahren zum Einstellen einer Dienstpriorität eines Benutzers, umfassend:

Senden (S2010) von Dienstprioritätsänderungsinformationen eines Benutzergeräts, UE, durch eine Anwendungsfunktion, AF, an eine Richtliniensteuerungsfunktionalität, PCF, wobei sich das UE bei einem Netzwerk registriert und eine Paketdateneinheitssitzung, PDU-Sitzung, aktiviert hat und ein Netzwerkscheibenidentifizierer, S-NSSAI, der von dem UE in dem Netzwerk eine erste S-NSSAI ist, und eine Netzwerk-

scheibeninstanz, NSI, die der ersten S-NSSAI entspricht, eine NSI ist, die einem Benutzer mit normaler Dienstpriorität entspricht;

Benachrichtigung (S2020) einer Sitzungsmanagementfunktion, SMF, die der aktivierten PDU-Sitzung entspricht, durch die PCF, um die von der UE aktivierte PDU-Sitzung zu deaktivieren;

Deaktivieren (S2030), durch das der aktivierten PDU-Sitzung entsprechende SMF, der durch das UE aktivierten PDU-Sitzung durch das UE, und Benachrichtigung (S2030) des UE durch das SMF, das der aktivierten PDU-Sitzung entspricht, um eine PDU-Sitzung wiederherzustellen;

Empfangen (S2040) einer PDU-Sitzungsaufbauanforderung, die von dem UE gesendet wurde, durch eine Zugangs- und Mobilitätsmanagementfunktion (AMF), wobei die PDU-Sitzungsaufbauanforderung die erste S-NSSAI trägt;

Senden (S2050) einer Dienstautorisierungsanforderungsnachricht durch die AMF an die PCF, wobei die Dienstautorisierungsanforderungsnachricht einen Identifikator des UE und die erste S-NSSAI umfasst;

Ändern (S2060) der ersten S-NSSAI durch die PCF in eine geänderte S-NSSAI, die der Dienstprioritätsänderungsinformation gemäß der Dienstprioritätsänderungsinformation des UE entspricht;

Senden (S2070) einer Dienstautorisierungsantwortnachricht durch die PCF an die AMF, wobei die Dienstautorisierungsantwortnachricht die geänderte S-NSSAI umfasst;

Senden (S2080) einer Benutzer-Slice-Informationserfassungs-Anforderungsnachricht durch die AMF an eine Network Slice Selection Function, NSSF, wobei die Benutzer-Slice-Informationserfassungs-Anforderungsnachricht die geänderte S-NSSAI umfasst;

Senden (S2090) einer Antwortnachricht zur Erfassung von Benutzer-Slice-Informationen durch den NSSF an den AMF, wobei die User Slice Information Acquisition Response Message NSI-Informationen trägt, die der geänderten S-NS SAI ENTSPRICHT;

Auswählen (S2100) eines SMF, der einer NSI entspricht, die der geänderten S-NSSAI entspricht, durch die AMF gemäß der geänderten S-NSSAI, der NSI-Information, die der geänderten S-NSSAI entspricht, und eines Datennetznamens, DNN;

Senden (S2110) einer Sitzungskontext-Anforderungsnachricht an die SMF, die der NSI entspricht, die der geänderten S-NSSAI entspricht, durch die AMF, wobei die Sitzungskontext-Anforderungsnachricht die geänderte S-NSSAI trägt;

Senden (S2120) einer Sitzungskontext-Erzeugungantwortnachricht an die AMF durch die SMF, die der NSI entspricht, die der geänderten S-NSSAI entspricht; und

Erstellen (S2130) einer neuen PDU-Sitzung für das UE durch die SMF, die der NSI entspricht, die der geänderten S-NSSAI entspricht, und die AMF, wobei eine S-NSSAI der neuen PDU-Sitzung die geänderte S-NSSAI ist.

2. Verfahren nach Anspruch 1, wobei das Verfahren vor der Benachrichtigung (S2020) des SMF, das der aktivierten PDU-Sitzung entspricht, durch die PCF, die PDU-Sitzung, die durch das UE aktiviert wurde, zu deaktivieren, weiterhin umfasst:
Eintragung durch die PCF bei der AMF für die Dienstautorisierung des UE.
3. Verfahren nach Anspruch 1, wobei das Senden (S2010) der Dienstprioritätsänderungsinformation des UE an die PCF durch die AF umfasst:
Senden der Information über die Änderung der Dienstpriorität des UE durch die AF an die PCF über eine Network Exposure Function, NEF.
4. Verfahren nach einem der Ansprüche 1 bis 3, wobei das Verfahren vor dem Senden (S2010) der Dienstprioritätsänderungsinformation des UE durch die AF an die PCF weiterhin umfasst:

Empfangen und Erfassen der vom UE gesendeten Dienstabonnementinformationen hoher Priorität durch den AF; und
Senden (S2010) der Dienstprioritäts-Änderungsinformation des UE an die PCF durch die AF umfasst:
Senden, durch die AF, der Hochprioritätsdienst-Abonnementinformationen des UE an die PCF, wobei eine NSI, die der von dem UE aktivierten PDU-Sitzung entspricht, eine NSI ist, die von einem Benutzer mit normaler Priorität verwendet wird, und eine NSI, die der neuen PDU-Sitzung entspricht, eine NSI ist, die von einem Benutzer mit hoher Priorität verwendet wird.
5. Verfahren nach einem der Ansprüche 1 bis 3, wobei das Senden (S2010) der Dienstprioritätsänderungsinformation des UE an die PCF durch die AF umfasst:
Senden von Informationen über die Abbestellung eines Dienstes mit hoher Priorität durch die AF an die PCF in dem Fall, in dem die AF feststellt, dass ein von dem UE abonnierter Dienst mit hoher Priorität abläuft und nicht erneuert wurde, oder in einem Fall, in dem die AF Informationen über die Abbestellung eines Dienstes mit hoher Priorität empfängt, die von dem UE gesendet wurden, wobei eine NSI, die der von dem UE aktivierten PDU-Sitzung entspricht, eine NSI ist, die von einem Benutzer mit hoher Priorität

verwendet wird, und eine NSI, die der neuen PDU-Sitzung entspricht, eine NSI ist, die von einem Benutzer mit normaler Priorität verwendet wird.

6. Verfahren nach einem der Ansprüche 1 bis 3, wobei die Anforderungsnachricht zum Erstellen des Sitzungskontexts weiterhin die erste S-NSSAI enthält und die erste S-NSSAI für die Abonnementprüfung verwendet wird. 5
7. Verfahren nach einem der Ansprüche 1 bis 3, wobei die vom UE neu aufgebaute PDU-Sitzung einer geänderten Priorität des UE entspricht. 10
8. Verfahren nach einem der Ansprüche 1 bis 3, wobei der Identifikator des UE ein Subscription permanenter Bezeichner, SUPI. 15
9. System zum Einstellen einer Dienstpriorität eines Benutzers, umfassend: eine Anwendungsfunktion, AF, eine Richtlinienkontrollfunktionalität, PCF, eine Sitzungsmanagementfunktion, SMF, eine Zugangs- und Mobilitätsmanagementfunktion, AMF, und eine Netzwerkscheibenauswahlfunktion, NSSF, wobei 20

die AF so konfiguriert ist, dass sie Informationen zur Änderung der Dienstpriorität der Benutzereinrichtung, UE, an die PCF sendet, wobei das UE sich bei einem Netzwerk registriert und eine Paketdateneinheitssitzung, PDU-Sitzung, aktiviert hat, und ein Netzwerkscheibenidentifizierer, S-NSSAI, der von dem UE in dem Netzwerk registriert wird, eine erste S-NSSAI ist, und eine Netzwerkscheibeninstanz, NSI, die der ersten S-NSSAI entspricht, eine NSI ist, die einem Benutzer mit normaler Dienstpriorität entspricht; 25

das PCF so konfiguriert ist, dass es das SMF, das der aktivierten PDU-Sitzung entspricht, benachrichtigt, die von dem UE aktivierte PDU-Sitzung zu deaktivieren; 30

das SMF, das der aktivierten PDU-Sitzung entspricht, so konfiguriert ist, dass es die von dem UE aktivierte PDU-Sitzung deaktiviert und das UE benachrichtigt, um eine PDU-Sitzung wiederherzustellen; 35

die AMF so konfiguriert ist, dass sie eine von dem UE gesendete PDU-Sitzungsaufbauanforderung empfängt, wobei die PDU-Sitzungsaufbauanforderung die erste S-NSSAI trägt; und eine Dienstautorisierungsanforderungsnachricht an die PCF sendet, wobei die Dienstautorisierungsanforderungsnachricht eine Kennung des UE und die erste S-NSSAI umfasst; 40

die PCF weiter konfiguriert ist, um die erste S-NSSAI in eine geänderte S-NSSAI zu modifizieren, die der Dienstprioritätsänderungsinformation gemäß der Dienstprioritätsänderungsinformation des UE entspricht, und eine Dienstauto- 45

risierungsantwortnachricht an die AMF zu senden, wobei die Dienstautorisierungsantwortnachricht die geänderte S-NSSAI umfasst; die AMF ferner so konfiguriert ist, dass sie eine Anforderungsnachricht zur Erfassung von Benutzer-Slice-Informationen an eine NSSF sendet, wobei die Anforderungsnachricht zur Erfassung von Benutzer-Slice-Informationen die geänderte S-NSSAI umfasst; 5

die NSSF so konfiguriert ist, dass sie eine Antwortnachricht zur Erfassung von Benutzer-Slice-Informationen an die AMF sendet, wobei die Antwortnachricht zur Erfassung von Benutzer-Slice-Informationen NSI-Informationen enthält, die der geänderten S-NSSAI ENTSPRICHT; 10

die AMF ist ferner so konfiguriert, dass sie eine SMF auswählt, die einer NSI entspricht, die der geänderten S-NSSAI entspricht, und zwar gemäß der geänderten S-NSSAI, der NSI-Information, die der geänderten S-NSSAI entspricht, und einem Datennetzwerknamen DNN, und dass sie eine Anforderungsnachricht zum Erzeugen eines Sitzungskontexts an die SMF sendet, die der NSI entspricht, die der geänderten S-NSSAI entspricht, wobei die Anforderungsnachricht zum Erzeugen eines Sitzungskontexts die geänderte S-NSSAI trägt; 15

die SMF, die der NSI entspricht, die der geänderten S-NSSAI entspricht, so konfiguriert ist, dass sie eine Antwortnachricht zum Erstellen des Sitzungskontexts an die AMF sendet; und die SMF, die der NSI entspricht, die der geänderten S-NSSAI entspricht, und die AMF sind ferner so konfiguriert, dass sie eine neue PDU-Sitzung für das UE aufbauen, wobei die S-NSSAI der neuen PDU-Sitzung die geänderte S-NSSAI ist. 20

10. System nach Anspruch 9, wobei die PCF ferner so konfiguriert ist, dass sie sich bei der AMF für die Dienstautorisierung des UE anmeldet, bevor sie die SMF, die der aktivierten PDU-Sitzung entspricht, benachrichtigt, um die von dem UE aktivierte PDU-Sitzung zu deaktivieren. 25
11. System nach Anspruch 9, wobei die AF so konfiguriert ist, dass sie die Informationen zur Änderung der Dienstpriorität des UE über eine Network Exposure Function, NEF, an die PCF sendet. 30
12. System nach einem der Ansprüche 9 bis 11, wobei die AF ferner so konfiguriert ist, dass sie von dem UE gesendete Dienstabonnementinformationen hoher Priorität empfängt und erfasst und die Dienstabonnementinformationen hoher Priorität des UE an die PCF sendet, wobei eine NSI, die der von dem UE aktivierten PDU-Sitzung entspricht, eine NSI ist, 35

die von einem Benutzer normaler Priorität verwendet wird, und eine NSI, die der neuen PDU-Sitzung entspricht, eine NSI ist, die von einem Benutzer mit hoher Priorität verwendet wird.

13. System nach einem der Ansprüche 9 bis 11, wobei die AF so konfiguriert ist, dass sie Informationen über die Abbestellung eines Dienstes hoher Priorität des Endgeräts an die PCF sendet, wenn festgestellt wird, dass ein von dem Endgerät abonniertes Dienst hoher Priorität abläuft und nicht erneuert wurde, oder wenn sie Informationen über die Abbestellung eines Dienstes hoher Priorität empfängt, die von dem Endgerät gesendet wurden, wobei ein NSI, der der von dem Endgerät aktivierten PDU-Sitzung entspricht, ein NSI ist, der von einem Benutzer hoher Priorität verwendet wird, und ein NSI, der der neuen PDU-Sitzung entspricht, ein NSI die von einem Benutzer mit normaler Priorität verwendet wird.
14. System nach einem der Ansprüche 9 bis 11, wobei die Anforderungsnachricht zum Erstellen des Sitzungskontexts ferner die erste S-NSSAI enthält und die erste S-NSSAI für die Abonnementprüfung verwendet wird.
15. Computerlesbares Speichermedium, auf dem ein Computerprogramm gespeichert ist, wobei das Computerprogramm, wenn es von einem Prozessor ausgeführt wird, den Prozessor veranlasst, das Verfahren zur Einstellung einer Dienstpriorität Dienstpriorität eines Benutzers nach einem der Ansprüche 1-8 implementiert.

Revendications

1. Procédé pour ajuster la priorité de service d'un utilisateur, comprenant:

l'envoi (S2010), par une fonction d'application, AF, d'informations de changement de priorité de service d'un équipement d'utilisateur, UE, à une fonctionnalité de contrôle de politique, PCF, dans laquelle l'UE s'est enregistré auprès d'un réseau et a activé une session d'unité de données par paquets, session PDU, et un identificateur de tranche de réseau, S-NSSAI, enregistré par l'UE dans le réseau est un premier S-NSSAI, et une instance de tranche de réseau, NSI, correspondant au premier S-NSSAI est un NSI correspondant à un utilisateur prioritaire du service normal;
notifier (S2020), par la PCF, une fonction de gestion de session, SMF, correspondant à la session PDU activée, afin de désactiver la session PDU activée par l'UE;
désactivant (S2030), par la fonction de gestion

de session correspondant à la session PDU activée, la session PDU activée par l'UE, et notifier (S2030), par le SMF correspondant à la session PDU activée, à l'UE de rétablir une session PDU;

réception (S2040), par une fonction de gestion de l'accès et de la mobilité, AMF, d'une demande d'établissement de session PDU envoyée par l'UE, la demande d'établissement de session PDU comportant le premier S-NSSAI;
envoi (S2050), par l'AMF, d'un message de demande d'autorisation de service à la PCF, le message de demande d'autorisation de service comprenant un identifiant de l'UE, le premier S-NSSAI.

modification (S2060), par la PCF, du premier S-NSSAI en un S-NSSAI modifié correspondant aux informations de changement de priorité de service en fonction des informations de changement de priorité de service de l'UE;

envoi (S2070), par la PCF, d'un message de réponse d'autorisation de service à l'AMF, dans lequel le message de réponse d'autorisation de service comprend le S-NSSAI modifié;

envoi (S2080), par l'AMF, d'un message de demande d'acquisition d'informations de tranche d'utilisateur à une fonction de sélection de tranche de réseau, NSSF, dans lequel le message de demande d'acquisition d'informations de tranche d'utilisateur comprend le S-NSSAI modifié;

envoi (S2090), par la NSSF, d'un message de réponse d'acquisition d'informations sur la tranche d'utilisateur à l'AMF, dans lequel le message de réponse d'acquisition d'informations de tranche d'utilisateur contient des informations NSI correspondant au SAI S-NS modifié;

sélection (S2100), par l'AMF, d'un SMF correspondant à un INS correspondant au S-NSSAI modifié en fonction du S-NSSAI modifié, des informations INS correspondant au S-NSSAI modifié et d'un nom de réseau de données, DNN;
envoi (S2110), par l'AMF, d'un message de demande de création de contexte de session au SMF correspondant au NSI correspondant au S-NSSAI modifié, dans lequel le message de demande de contexte de création de session contient le S-NSSAI modifié;

envoi (S2120), par le SMF correspondant à l'INS correspondant au S-NSSAI modifié, d'un message de réponse de création de contexte de session à l'AMF ; et

établir (S2130), par le SMF correspondant à l'INS correspondant au S-NSSAI modifié, et l'AMF, une nouvelle session PDU pour l'UE, dans laquelle un S-NSSAI de la nouvelle session PDU est le S-NSSAI modifié.

2. Procédé selon la revendication 1, dans lequel, avant de notifier (S2020), par le PCF, au SMF correspondant à la session PDU activée de désactiver la session PDU activée par l'UE, le procédé comprend en outre:
la souscription, par le PCF, auprès de l'AMF d'une autorisation de service pour l'UE.
3. Procédé selon la revendication 1, dans laquelle l'envoi (S2010), par l'AF, des informations de changement de priorité de service de l'UE à la PCF comprend:
l'envoi, par l'AF, des informations de changement de priorité de service de l'UE à la PCF par l'intermédiaire d'une fonction d'exposition au réseau (Network Exposure Function, NEF).
4. Procédé selon l'une des revendications 1 à 3, dans lequel avant d'envoyer (S2010), par l'AF, l'information de changement de priorité de service de l'UE à la PCF, le procédé comprend en outre:

la réception et l'acquisition, par l'AF, d'informations d'abonnement à un service hautement prioritaire envoyées par l'UE ; et
l'envoi (S2010), par l'AF, des informations de changement de priorité de service de l'UE au PCF comprend:
l'envoi, par l'AF, des informations d'abonnement au service de haute priorité de l'UE à la PCF, dans lequel un NSI correspondant à la session PDU activée par l'UE est un NSI utilisé par un utilisateur à priorité normale, et un NSI correspondant à la nouvelle session PDU est un NSI utilisé par un utilisateur à priorité élevée.
5. Procédé selon l'une des revendications 1 à 3, dans lequel l'envoi (S2010), par l'AF, de l'information de changement de priorité de service de l'UE à la PCF comprend:
l'envoi, par l'AF, d'informations d'annulation de l'abonnement au service de haute priorité de l'UE à la PCF dans un cas où l'AF détermine qu'un abonnement au service de haute priorité de l'UE a été annulé dans le cas où l'AF détermine qu'un service à haute priorité souscrit par l'UE expire et n'a pas été renouvelé ou dans le cas où l'AF reçoit des informations de désabonnement à un service à haute priorité envoyées par l'UE, dans lequel un INS correspondant à la session PDU activée par l'UE est un INS utilisé par un utilisateur à haute priorité, et un INS correspondant à la nouvelle session PDU est un INS utilisé par un utilisateur à priorité normale.
6. Procédé selon l'une des revendications 1 à 3, dans lequel le message de demande de création de contexte de session contient en outre le premier S-NSSAI, et le premier S-NSSAI est utilisé pour la vérifi-

cation de l'abonnement.

7. Procédé selon l'une des revendications 1 à 3, dans laquelle la session PDU rétablie par l'UE correspond à une priorité modifiée de l'UE.
8. Procédé selon l'une des revendications 1 à 3, dans laquelle l'identifiant de l'UE est un identifiant permanent d'abonnement (Subscription Permanent Identifier, SUPI).
9. Système permettant d'ajuster la priorité de service d'un utilisateur, comprenant: une fonction d'application, AF, une fonction de contrôle des politiques, PCF, une fonction de gestion des sessions, SMF, une fonction de gestion de l'accès et de la mobilité, AMF, et une fonction de sélection des tranches de réseau, NSSF, dans lequel

l'AF est configurée pour envoyer des informations de changement de priorité de service de l'équipement d'utilisateur (UE) à la PCF, dans lequel l'UE s'est enregistré auprès d'un réseau et a activé une session d'unité de données par paquets, session PDU, et un identificateur de tranche de réseau, S-NSSAI, enregistré par l'UE dans le réseau est un premier S-NSSAI, et une instance de tranche de réseau, NSI, correspondant au premier S-NSSAI est un NSI correspondant à un utilisateur ayant une priorité de service normale;

le PCF est configuré pour notifier au SMF correspondant à la session PDU activée de désactiver la session PDU activée par l'UE;

le SMF correspondant à la session PDU activée est configuré pour désactiver la session PDU activée par l'UE et notifier à l'UE de rétablir une session PDU;

l'AMF est configurée pour recevoir une demande d'établissement de session PDU envoyée par l'UE, dans laquelle la demande d'établissement de session PDU comporte le premier S-NSSAI, et pour envoyer un message de demande d'autorisation de service à la PCF, dans lequel le message de demande d'autorisation de service comprend un identificateur de l'UE et le premier S-NSSAI;

le PCF est en outre configuré pour modifier le premier S-NSSAI en un S-NSSAI modifié correspondant aux informations de changement de priorité de service en fonction des informations de changement de priorité de service de l'UE, et pour envoyer un message de réponse d'autorisation de service à l'AMF, le message de réponse d'autorisation de service comprenant le S-NSSAI modifié;

l'AMF est en outre configuré pour envoyer un message de demande d'acquisition d'informa-

- tions sur la tranche d'utilisateur à un NSSF, le message de demande d'acquisition d'informations sur la tranche d'utilisateur comprenant le S-NSSAI modifié;
- le NSSF est configuré pour envoyer à l'AMF un message de réponse à l'acquisition d'informations sur la tranche d'utilisateur, dans lequel le message de réponse à l'acquisition d'informations sur la tranche d'utilisateur contient des informations NSI correspondant à la tranche S-NSSAI modifiée;
- l'AMF est en outre configuré pour sélectionner un SMF correspondant à un INS correspondant au S-NSSAI modifié en fonction du S-NSSAI modifié, des informations NSI correspondant au S-NSSAI modifié et d'un nom de réseau de données (DNN), et pour envoyer un message de demande de contexte de création de session au SMF correspondant à l'INS correspondant au S-NSSAI modifié, dans lequel le message de demande de contexte de création de session contient le S-NSSAI modifié;
- le SMF correspondant à l'INS correspondant au S-NSSAI modifié est configuré pour envoyer un message de réponse de création de contexte de session à l'AMF ; et
- le SMF correspondant à l'INS correspondant au S-NSSAI modifié, et l'AMF sont en outre configurés pour établir une nouvelle session PDU pour l'UE, dans laquelle le S-NSSAI de la nouvelle session PDU est le S-NSSAI modifié.
10. Le système selon la revendication 9, dans lequel le PCF est en outre configuré pour s'abonner à l'AMF pour l'autorisation de service de l'UE avant de notifier au SMF correspondant à la session PDU activée de désactiver la session PDU activée par l'UE.
11. Le système selon la revendication 9, dans lequel l'AF est configurée pour envoyer les informations de changement de priorité de service de l'UE à la PCF via une fonction d'exposition au réseau, NEF.
12. Le système selon l'une des revendications 9 à 11, dans lequel l'AF est en outre configuré pour recevoir et acquérir des informations d'abonnement à un service de haute priorité envoyées par l'UE, et envoyer les informations d'abonnement à un service de haute priorité de l'UE à la PCF, dans lequel un INS correspondant à la session PDU activée par l'UE est un INS utilisé par un utilisateur à priorité normale, et un INS correspondant à la nouvelle session PDU est un INS utilisé par un utilisateur à priorité élevée.
13. Le système selon l'une des revendications 9 à 11, dans lequel l'AF est configuré pour envoyer des informations d'annulation d'abonnement à un service de haute priorité de l'UE à la PCF dans le cas où il est déterminé qu'un service de haute priorité souscrit par l'UE expire et n'a pas été renouvelé ou dans le cas où il reçoit des informations de désabonnement à un service de haute priorité envoyées par l'UE, dans lequel un INS correspondant à la session PDU activée par l'UE est un INS utilisé par un utilisateur de haute priorité, et un INS correspondant à la nouvelle session PDU est un INS utilisé par un utilisateur à priorité normale.
14. Le système selon l'une des revendications 9 à 11, dans lequel le message de demande de création de contexte de session contient en outre le premier S-NSSAI, et le premier S-NSSAI est utilisé pour la vérification de l'abonnement.
15. Support de stockage lisible par ordinateur, sur lequel est stocké un programme d'ordinateur, dans lequel le programme d'ordinateur, lorsqu'il est exécuté par un processeur, amène le processeur à mettre en oeuvre la méthode d'ajustement d'une service d'un utilisateur selon l'une des revendications 1 à 8.

Fig. 1

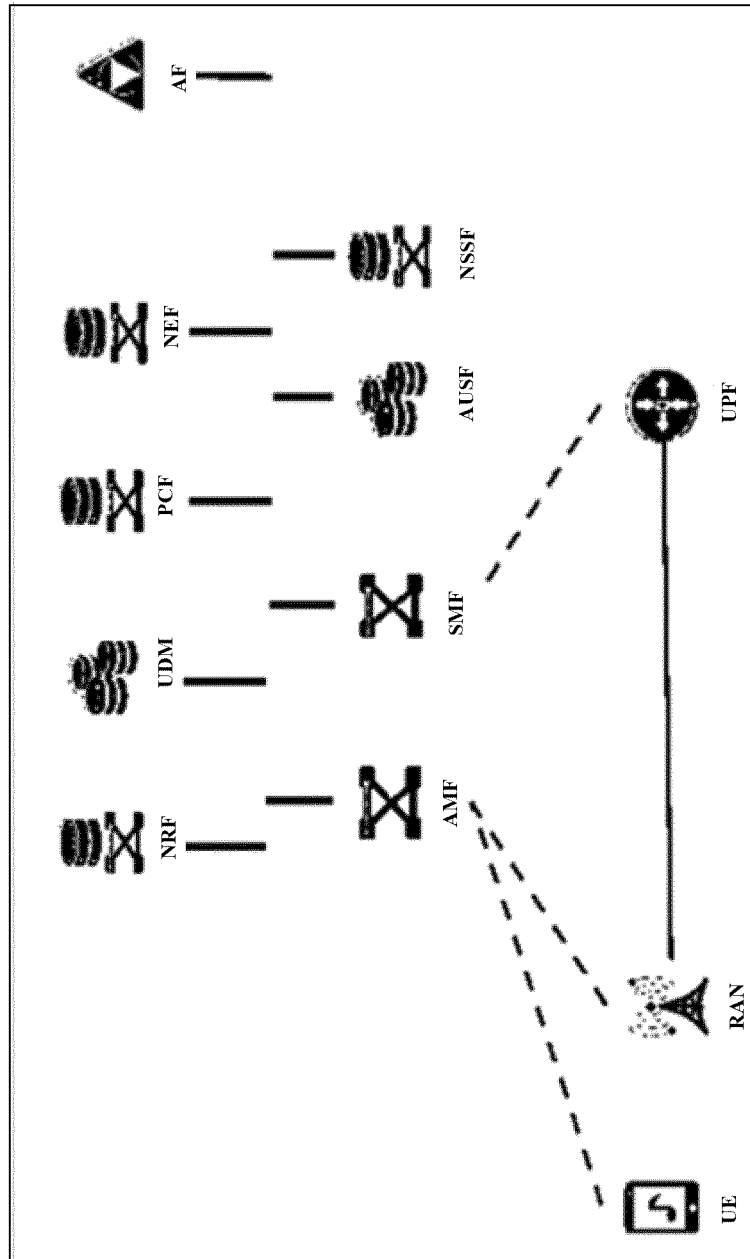


Fig. 2

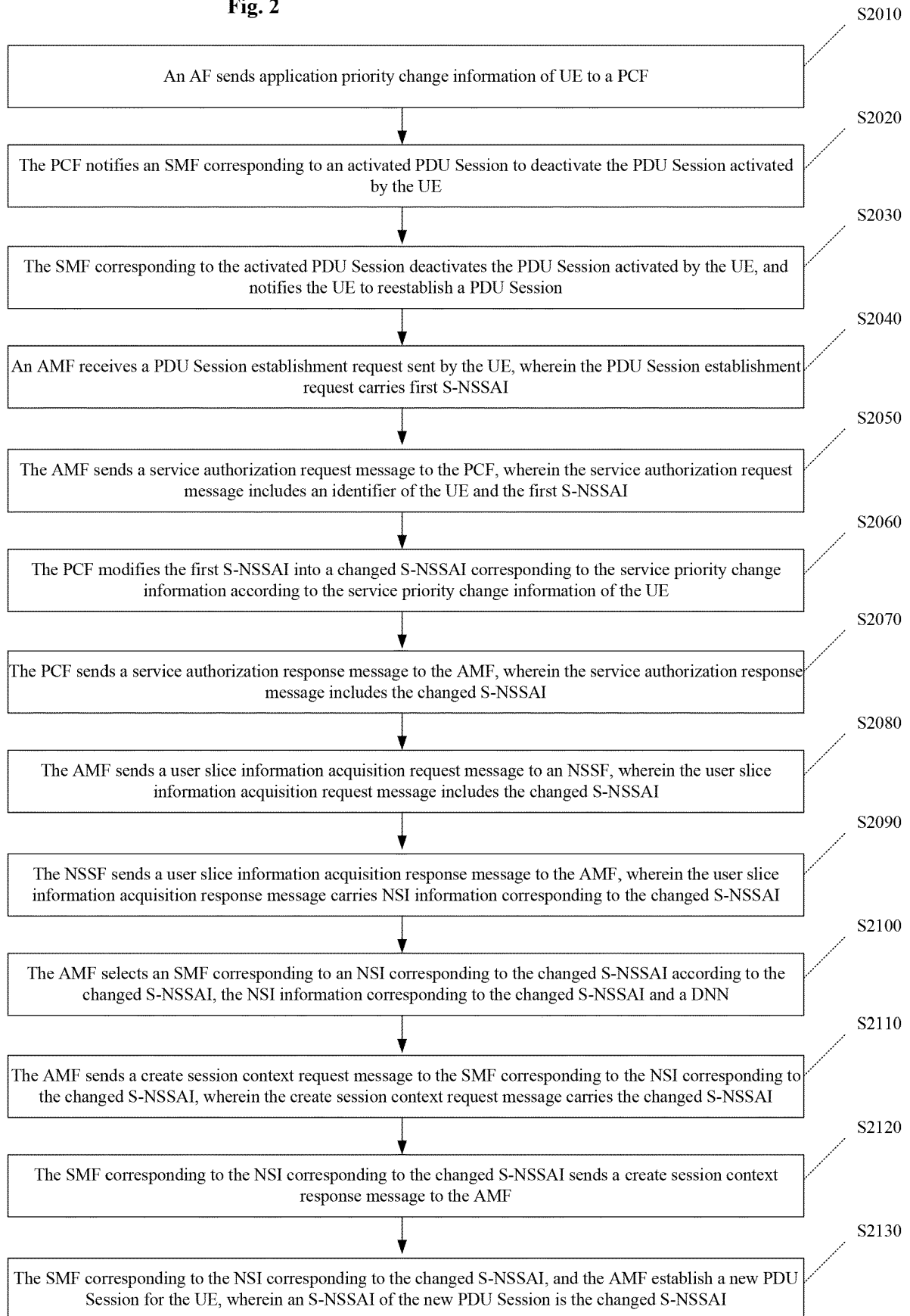


Fig. 3

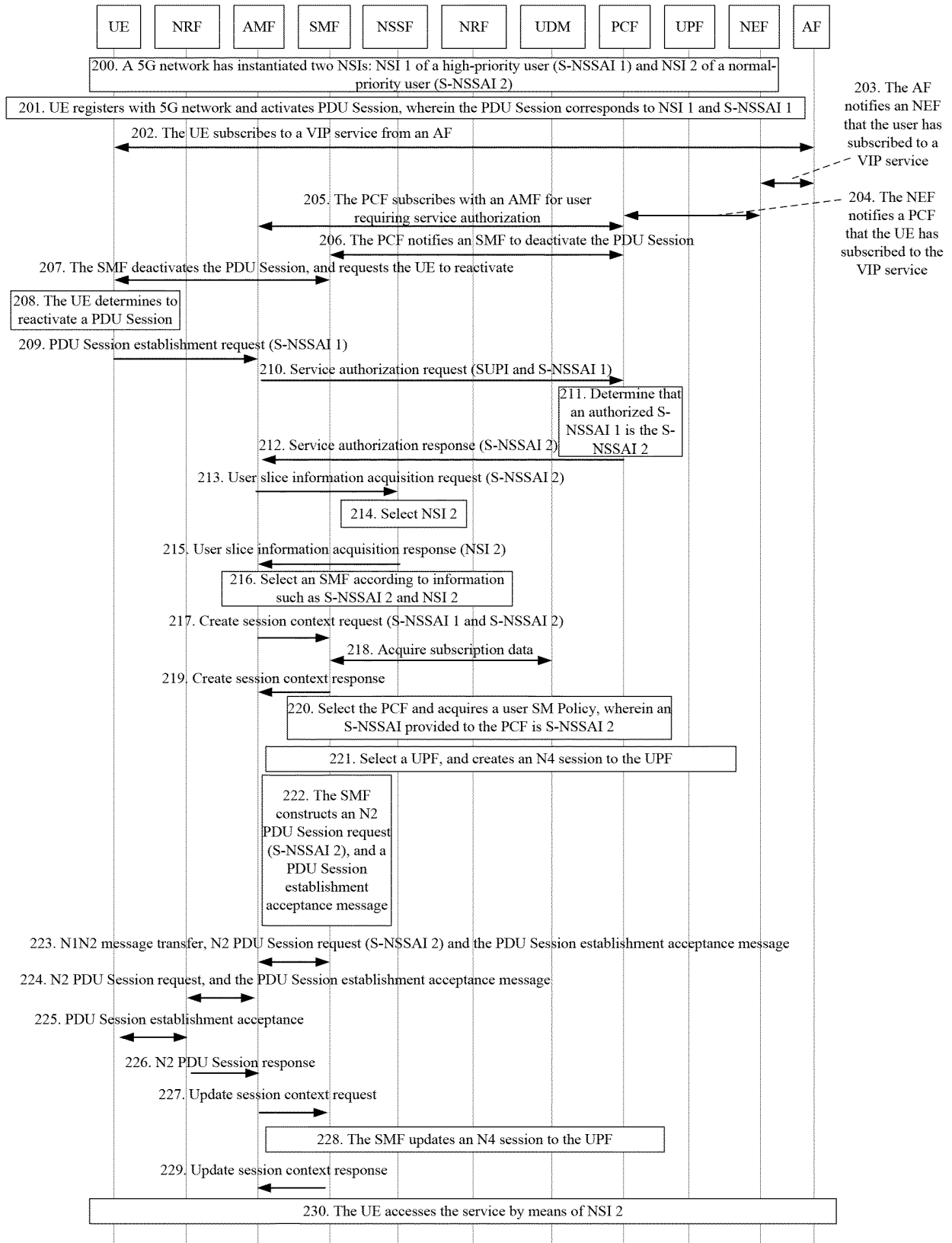


Fig. 4

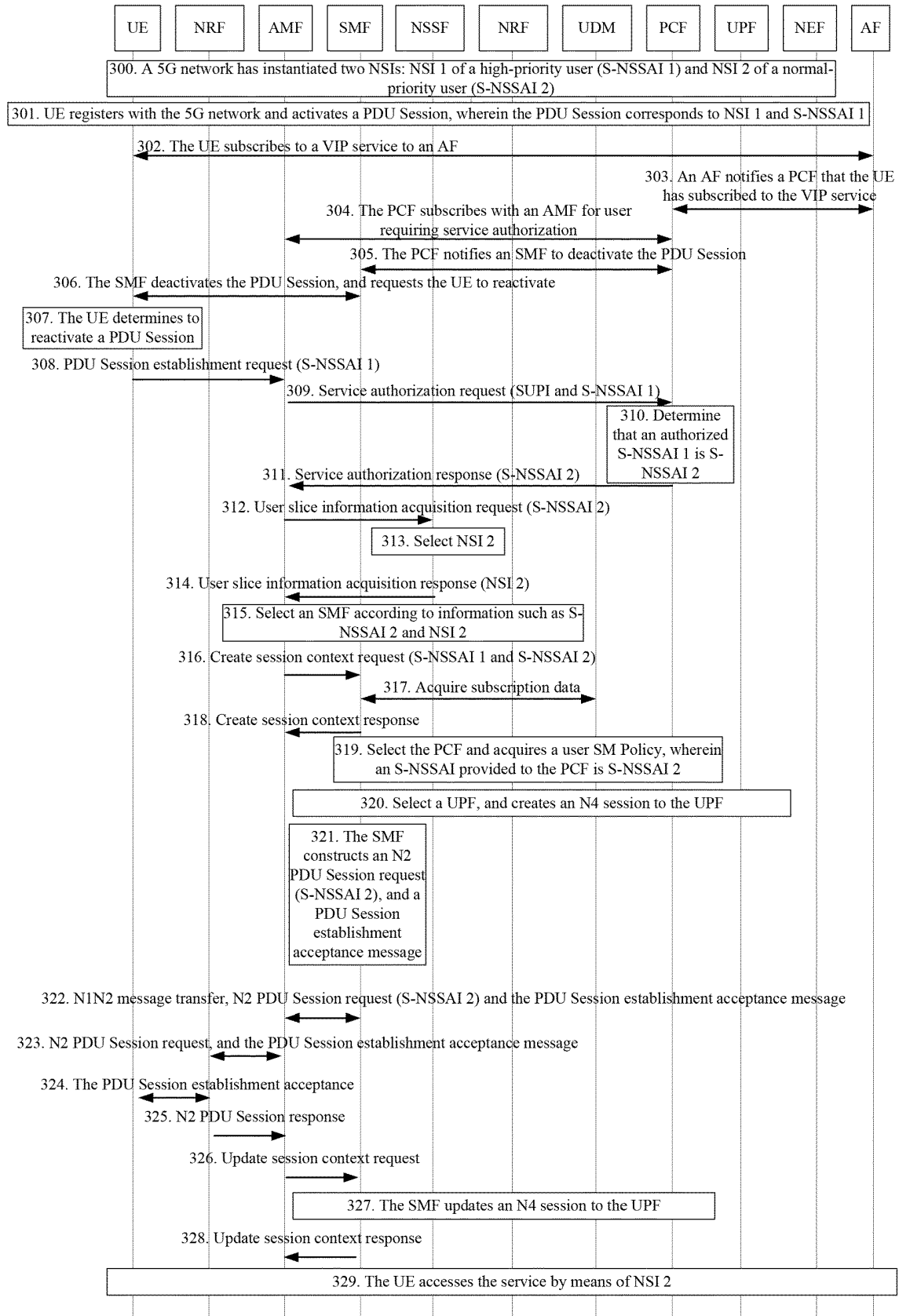


Fig. 5

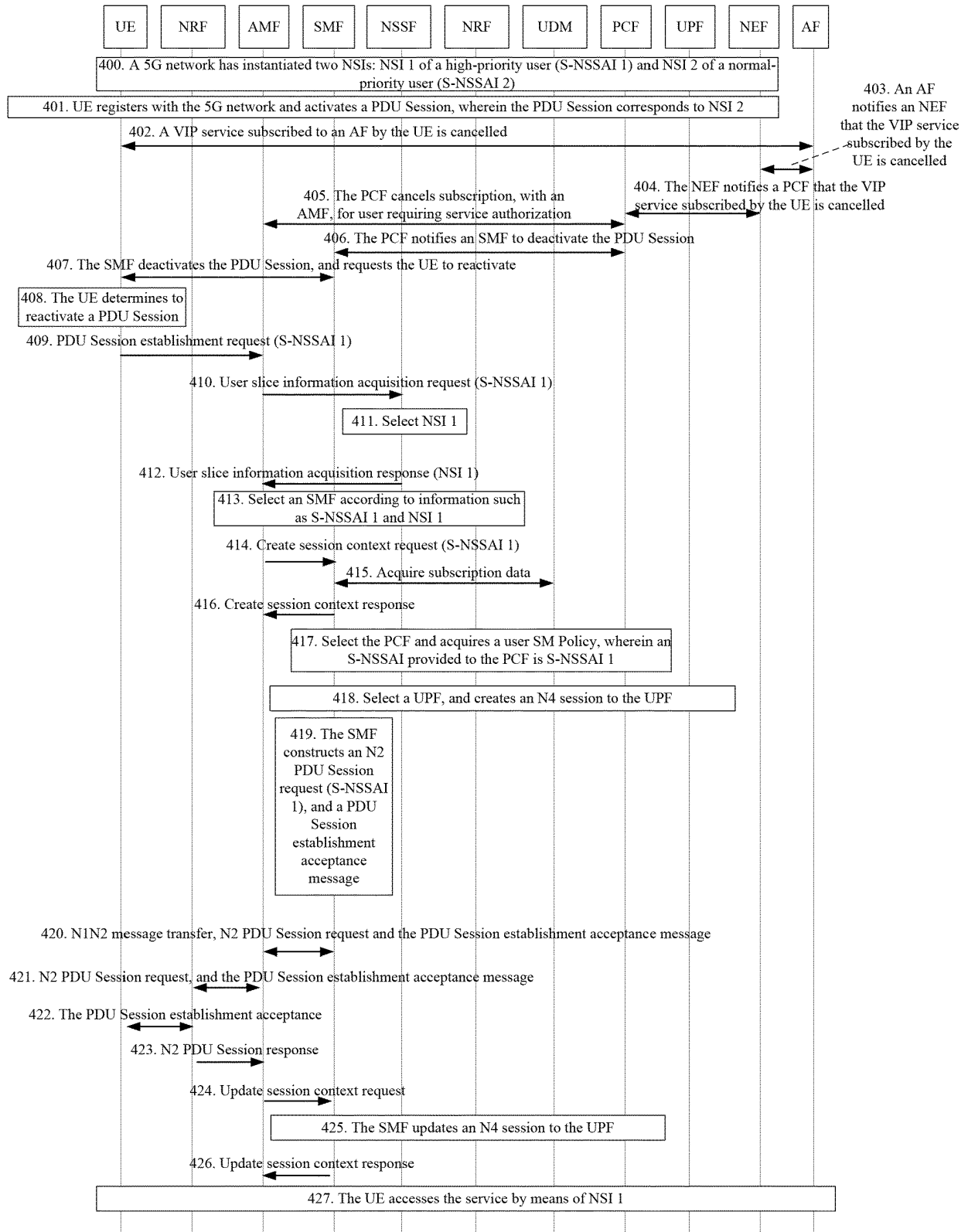
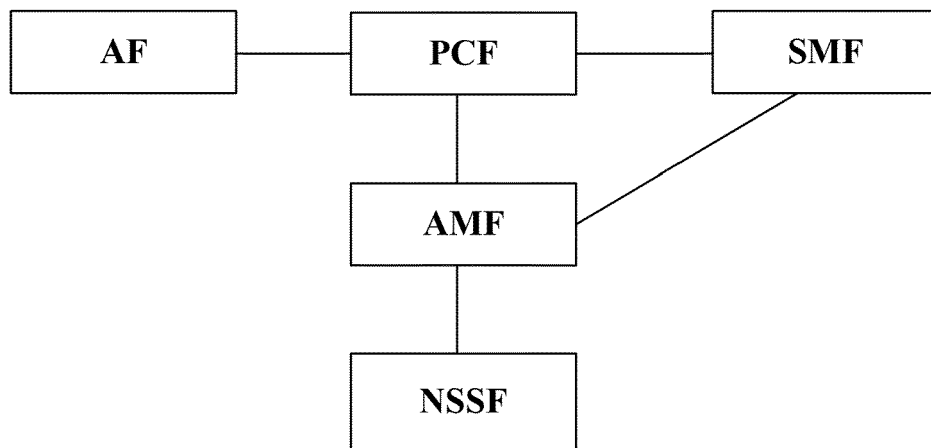


Fig. 6



REFERENCES CITED IN THE DESCRIPTION

This list of references cited by the applicant is for the reader's convenience only. It does not form part of the European patent document. Even though great care has been taken in compiling the references, errors or omissions cannot be excluded and the EPO disclaims all liability in this regard.

Patent documents cited in the description

- US 2019053104 A [0005]